

REMARKS

Claims 1-8 are pending in the present application, with claim 1 amended. Applicants note with appreciation the allowance of claims 2-8. Reexamination and reconsideration are respectfully requested.

Applicants have amended claim 1 to further clarify the claimed invention. Claim 1 recites that the distance between the pivotal center and the weight member disposed in the first arm is set to a smaller value than the distance between the pivotal center and the weight member disposed in the second arm. Applicants have amended claim 1 to clarify that the distance is between the pivotal center and “the center of gravity” of each weight member. Support for the amendment may be found at page 21, lines 27-31 and Fig. 5.

The claimed invention is directed to a keyboard assembly having a plurality of seesaw-type mass members. Each mass member has a first arm and a second arm. The arms extend substantially horizontally in opposite directions from a pivotal center of the mass member. Distinct weight members are carried separately by each arm. The distance between the center of gravity of the weight member disposed in the first arm to the pivotal center is less than the distance between the center of gravity of the weight member disposed in the second arm to the pivotal center.

As discussed in the specification (see, e.g., page 26, line 33 to page 31, line 2), the claimed invention provides a number of benefits. Carrying weight members with each arm and having the recited distance relationship allow for the use of smaller weights. Smaller weights save space and limit interference between the weight members and other members of the assembly. Furthermore, the recited distance relationship results in the first arm traveling a short vertical distance. This saves vertical space in the keyboard. Finally, the claimed invention enables setting a desired key touch response for each key.

The Examiner rejected claim 1 under 35 U.S.C. § 103 as being unpatentable over Haselton (US 2800827) in view of Lee et al. (US 5158003).

Haselton is directed to a one-piece lifter/striker member for a toy piano. The one-piece member, illustrated in Fig. 1, is made of plastic and provides a quiet action in striking the tone rod 26 (see Col. 1, lines 15-23). The striking portion of the member includes a vertical support 34 while the lifter portion includes a hooked member 36. The striking portion and the lifter portion pivot around rod 27 when the key 10 is operated. As the Examiner concedes, Haselton does not disclose a mass member having first and second arms extending “substantially horizontally.”

To make up for the deficiency of Haselton, the Examiner cites Lee. Lee is directed to providing an after touch effect in an electronic musical instrument (see, e.g., Col. 1, lines 6-10). Fig. 2 illustrates a hammer 13 having a weight 14 at one end and a beam 15 at another end. The beam end 15 is coupled to a hammer spring 19. When the key is struck, the end of the hammer 13 with the weight 14 is lifted and the hammer spring is compressed. When the key is released, the force associated with the spring 19 returns the key to its original position.

The Examiner contends that it would have been obvious to one of ordinary skill to combine Haselton and Lee to obtain a mass member having arms extending substantially horizontally.

Applicants respectfully traverse the § 103 rejection. The modification that the Examiner proposes to make would render Haselton inoperative. Fig. 1 illustrates that the key 10 is positioned below the tone rod 26. For the operation of the key 10 to create a tone with tone rod 26, the lifter/striker member must have the illustrated arrangement. Namely, a hooked lifter portion 36 engages the key 10 and then the striking portion 34 is positioned vertically to correspondingly engage the tone rod 26 below the key 10. If the hooked lifter portion 36 and the vertical striking portion 34 are positioned to extend substantially horizontally from pivot 27, then the striking portion would never reach the tone rod 26 based on a typical key operation. A modification to a reference that renders it inoperative cannot be a proper § 103 rejection.

Nor are the Examiner’s motivations to combine availing. The Examiner notes that Lee is directed to providing an after touch effect in an electronic musical instrument. It is unclear how this

can be a motivation to combine with Haselton. Haselton is not directed to an electronic musical instrument. It is instead directed to a toy piano. While Haselton notes that it may be used with other percussion instruments, there is no mention of electronic musical instruments.

Moreover, Haselton is not concerned in any manner with a creating an after-touch effect. The stated purpose of Haselton is to provide a one-piece lifter/striker member made of plastic that provides quiet action (see, e.g., Col. 1, lines 15-23). The feel of the key 10 is not important to Haselton, but rather how the lifter/striker member performs.

Finally, the lifter/striker member of Haselton actually creates the tone, while the hammer 13 of Lee merely provides an after-touch effect. As a result, the two members operate very differently. The lifter/striker member operates in an unconfined manner to create a tone while the hammer of Lee is confined by the spring 19 to create an after-touch effect. One of ordinary skill in the art would not look at Lee's after-touch hammer/spring arrangement which does not create a tone and is confined to modify a member that does create a tone by moving in an unconfined manner.

The Examiner also notes that Lee's arrangement provides an in-line construction that minimizes the vertical dimension. The fact that Lee's arrangement may save vertical space is irrelevant to the shape of the lifter/striker in Haselton. The vertical space in Haselton is essentially defined by the length of the *vertical* rods 26 rather than the shape of the lifter/striker. One of ordinary skill in the art would not be motivated to straighten out the lifter portion 36 and the striking portion 34 of Haselton based on Lee to save vertical space, because it would not affect the vertical space.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

If, for any reason, the Examiner finds the application other than in condition for allowance, Applicants request that the Examiner contact the undersigned attorney at the Los Angeles

telephone number (213) 892-5630 to discuss any steps necessary to place the application in condition for allowance.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, Applicants petition for any required relief including extensions of time and authorize the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing docket no. 393032023000.

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Respectfully submitted,

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